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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,888	12/28/2000	Janne Mikael Haavisto	442-010006-US(PAR)	8460

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EXAMINER	
MISLEH, JUSTIN P	

ART UNIT	PAPER NUMBER
2612	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/750,888	HAAVISTO, JANNE MIKAEL	
	Examiner	Art Unit	
	Justin P. Misleh	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 2, and 4 - 29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 2, and 4 - 29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 August 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 2, 2005 has been entered.

Response to Arguments

2. Applicant's arguments with respect to Claims 1, 2, and 4 – 29 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1, 2, and 4 – 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Conceded Prior Art (ACPA) in view of Dunsmore.

5. For **Claim 1**, ACPA discloses, as shown in figure 1 and as stated on page 5 (line 26) – page 7 (line 2) both of the present application, a white balance adjustment unit (4) for use in a

digital camera, video camera, digital video camera, and television camera. APCA discloses the white balance measurement unit (4) for measuring the respective intensities of at least light components ("red and blue light components"; see page 5, lines 31 and 32) wherein said light components have predetermined frequency bands ("red and blue light components"). ACPA further discloses wherein the white balance measurement unit (4) comprises at least one photodiode sensor (38R/38B) to respond to one of said predetermined frequency bands ("red and blue light components") of one of said light components received by said photodiode sensor (see page 6, lines 4 – 8), wherein the photodiode sensor (38R/38B) is arranged to generate an electronic measurement signal representative of the intensity of said one of said light components (see page 6, lines 6 – 8).

While ACPA discloses photodiode sensors (38R/38B) for measuring red and blue light components, wherein each sensor generates electronic signals corresponding to the intensity of the red and blue light components; ACPA does not disclose replacing at least one photodiode sensor with an LED such that the LED is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light.

On the other hand, Dunsmore also provided an electronic measurement circuit for a camera. More specifically, Dunsmore teaches, as shown in figures 1 – 3 and as stated in column 3 (line 35) – 4 (line 20), a camera (10) including a photometric electronic measurement circuit (figures 1 – 3), wherein the photometric electronic measurement circuit comprises at least one LED (12) that is connected in series with a resistor (44) and arranged to be reverse biased by the application of a voltage source. Furthermore, Dunsmore states that an electronic measurement

signal ("measure scene illumination") is arranged to be generated by a current that flows in the LED when connected in reverse bias (specially see column 3, lines 52 – 67). Thus is it clear that Dunsmore at least teaches of an LED sensor such that the LED sensor is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light.

As stated in column 2 (lines 37 – 40) of Dunsmore, at the time the invention was made it would have been obvious to one with ordinary skill in the art to have included an electronic measurement for use in a camera including LED sensor such that the LED sensor is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light as taught by Dunsmore, in the white balance measuring unit including a photodiode sensor for use in a camera as disclosed by ACPA, for the advantage of reducing the number of parts, the cost and the complexity of photographic cameras that include light emitting and light sensing functions.

6. As for **Claim 2**, ACPA discloses, as shown in figure 1 and as stated on page 6 (lines 4 – 8), the unit (4) comprises at least one dedicated photodiode sensor (38R/38B) for each one of said at least two light components ("red and blue light components"), each dedicated photodiode sensor (38R/38B) adapted to respond to a predetermined frequency band corresponding to one of said light components received by the photodiode sensors (38R/38B) and being arranged to generate an electronic measurement signal representative of the intensity of said one of said light components (see page 6, lines 6 – 8).

As noted above, ACPA does not provide replacing at least one photodiode sensor with an LED such that the LED is reversed biased and adapted to respond to impinging light by

generating an electronic measurement signal representative of the intensity of the impinging light; however, the Examiner also noted above, at the time the invention was made it would have been obvious to one with ordinary skill in the art to have included an electronic measurement for use in a camera including LED sensor such that the LED sensor is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light as taught by Dunsmore, in the white balance measuring unit including a photodiode sensor for use in a camera as disclosed by ACPA.

7. As for **Claim 23**, as noted above, it would have been obvious to replace the two photodiode sensors (38R/38B) of ACPA with LED sensors. However, ACPA discloses as shown in figure 1 and as stated in page 6 (lines 4 – 8), two photodiode sensors (38R/38B) wherein one has a response to blue light (via color filter 42B) and being arranged to generate a signal representative of the intensity of blue light and wherein the other one having a response to red light (via color filter 42R) and being arranged to generate a signal representative of the intensity of blue light.

8. As for **Claim 4**, ACPA discloses, as shown in figure 1 and as stated on page 6 (lines 4 – 8 and lines 30 - 32) and page 7 (lines 1 and 2), an input for receiving at least two electronic color signals each corresponding to one of said light components (via image pickup part 10; 20R; and 20B) each corresponding to one of said light components, signals and an adjusting means (control part 16) for said color signals measurement signals, and adjusting proportional strength of corresponding to said electronic measurement signals.

9. As for **Claim 5**, ACPA discloses as shown in figure 1, wherein the device (4) has means for controlling an electrical image signal using the electronic measurement signal (via control part 16).

10. As for **Claim 6**, as noted above, it would have been obvious to replace the two photodiode sensors (38R/38B) of ACPA with LED sensors. Dunsmore discloses, as stated in column 3 (line 35) – 4 (line 20), a camera (10) including a photometric electronic measurement circuit (figures 1 – 3), wherein the photometric electronic measurement circuit comprises at least one LED (12) that is connected in series with a resistor (44) and arranged to be reverse biased by the application of a voltage source. ACPA teaches a white balance measurement unit (4) and Dunsmore teaches a photometric unit for exposure control (figure 3).

11. As for **Claim 21**, Dunsmore discloses, as stated in column 3 (line 35) – 4 (line 20), a camera (10) including a photometric electronic measurement circuit (figures 1 – 3), wherein the photometric electronic measurement circuit comprises at least one LED (12) that is connected in series with a resistor (44) and arranged to be reverse biased by the application of a voltage source. ACPA teaches a white balance measurement unit (4) and Dunsmore teaches a photometric unit for exposure control (figure 3).

12. As for **Claim 22**, Dunsmore teach, as shown in figures 1 – 3 and as stated in column 3 (line 35) – 4 (line 20), a camera (10) including a photometric circuit (figures 1 – 3), wherein the photometric circuit comprises at least one LED (12) is connected in series with a resistor (44) and arranged to be reverse biased by the application of a voltage source and an electronic measurement signal ("measure scene illumination") is arranged to be generated by a current that flows in the LED when connected in reverse bias (specially see column 3, lines 52 – 67).

13. As for **Claim 24**, as noted above, it would have been obvious to replace the two photodiode sensors (38R/38B) of ACPA with LED sensors. ACPA discloses, as stated on page 6 (lines 4 – 15), further comprising an LED with a response to a light component whose intensity correlates with a total intensity of light and being arranged to generate an electronic measurement signal representative of the total intensity of light.

14. As for **Claim 25**, as noted above, it would have been obvious to replace the two photodiode sensors (38R/38B) of ACPA with LED sensors. ACPA discloses, as stated on page 6 (lines 4 – 8), wherein the photodiode sensors (38R/38B) have respective responses to red and blue light components; albeit, ACPA does not disclose wherein the unit (4) is provided with a photodiode sensor having a response to green light.

However, **Official Notice** (MPEP § 2144.03) is taken that both the concepts and advantages of providing a white balance measurement unit having a sensor with a response to green light are well known and expected in the art. At the time the invention was made, it would have been obvious to one with ordinary skill in the art to have providing a white balance measurement unit having a sensor with a response to green light for the advantage of being able to adjust the total color balance of the image relative to the natural color balance of an output device.

15. As for **Claim 26**, as noted above, it would have been obvious to replace the two photodiode sensors (38R/38B) of ACPA with LED sensors. ACPA discloses, as stated on page 6 (lines 4 – 8), wherein the photodiode sensors (38R/38B) have respective responses to STRICTLY red and blue light components. On the other hand, Dunsmore discloses, as stated in

column 3 (line 35) – 4 (line 20), wherein the LED (40) may operate as an emitter such that it emits light in the visible spectrum.

The Examiner notes light visible spectrum comprises a much broader spectrum than light STRICTLY in the blue light spectrum or red light spectrum. Therefore, ACPA in view Dunsmore in combination provide wherein said at least one LCD is arranged to generate an electronic measurement signal representative of the intensity of a light component in a first frequency band and to radiate light in a second frequency band different from the first frequency band.

16. As for **Claim 27**, Dunsmore teach, as shown in figures 1 – 3 and as stated in column 3 (line 35) – 4 (line 20), wherein said at least one LED is a discrete LED component (as indicated by A/D Converter 46).

17. As for **Claim 28**, Dunsmore teach, as shown in figures 1 – 3 and as stated in column 3 (line 35) – 4 (line 20), wherein said at least one LED is a discrete LED component; albeit, is silent with respect to being part of an integrated circuit.

However, **Official Notice** (MPEP § 2144.03) is taken that both the concepts and advantages of incorporating the LED as part of an integrated circuit are well known and expected in the art. At the time the invention was made, it would have been obvious to one with ordinary skill in the art to incorporate the LED as part of an integrated circuit for the advantage of circuit portability.

18. As for **Claim 29**, Dunsmore teach, as shown in figures 1 – 3 and as stated in column 3 (line 35) – 4 (line 20), wherein said at least one LED

19. For **Claim 7**, ACPA discloses, as shown in figure 1 and as stated on page 5 (line 26) – page 7 (line 2) both of the present application, a digital camera, video camera, digital video camera, and television camera (ALL of which are recording device for recording an image in an electronic form) including a white balance adjustment unit (4) for measuring the respective intensities of at least light components ("red and blue light components"; see page 5, lines 31 and 32) wherein said light components have predetermined frequency bands ("red and blue light components"). ACPA further discloses wherein the white balance measurement unit (4) comprises at least one photodiode sensor (38R/38B) to respond to one of said predetermined frequency bands ("red and blue light components") of one of said light components received by said photodiode sensor (see page 6, lines 4 – 8), wherein the photodiode sensor (38R/38B) is arranged to generate an electronic measurement signal representative of the intensity of said one of said light components (see page 6, lines 6 – 8).

While ACPA discloses photodiode sensors (38R/38B) for measuring red and blue light components, wherein each sensor generates electronic signals corresponding to the intensity of the red and blue light components; ACPA does not disclose replacing at least one photodiode sensor with an LED such that the LED is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light.

On the other hand, Dunsmore also provided an electronic measurement circuit for a camera. More specifically, Dunsmore teaches, as shown in figures 1 – 3 and as stated in column 3 (line 35) – 4 (line 20), a camera (10) including a photometric electronic measurement circuit (figures 1 – 3), wherein the photometric electronic measurement circuit comprises at least one

LED (12) that is connected in series with a resistor (44) and arranged to be reverse biased by the application of a voltage source. Furthermore, Dunsmore states that an electronic measurement signal ("measure scene illumination") is arranged to be generated by a current that flows in the LED when connected in reverse bias (specially see column 3, lines 52 – 67). Thus is it clear that Dunsmore at least teaches of an LED sensor such that the LED sensor is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light.

As stated in column 2 (lines 37 – 40) of Dunsmore, at the time the invention was made it would have been obvious to one with ordinary skill in the art to have included an electronic measurement for use in a camera including LED sensor such that the LED sensor is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light as taught by Dunsmore, in the white balance measuring unit including a photodiode sensor for use in a camera as disclosed by ACPA, for the advantage of reducing the number of parts, the cost and the complexity of photographic cameras that include light emitting and light sensing functions.

20. As for **Claim 8**, ACPA discloses, as shown in figure 1 and as stated on page 6 (lines 4 – 8 and lines 30 - 32) and page 7 (lines 1 and 2), an input for receiving at least two electronic color signals each corresponding to one of said light components (via image pickup part 10; 20R; and 20B) each corresponding to one of said light components, signals and an adjusting means (control part 16) for said color signals measurement signals, and adjusting proportional strength of corresponding to said electronic measurement signals.

21. As for **Claim 9**, ACPA discloses, as shown in figure 1 and as stated on page 5 (line 26) – page 7 (line 2) both of the present application, a white balance adjustment unit (4) for use in a digital camera, video camera, digital video camera, and television camera.

22. As for **Claim 10**, as noted above, it would have been obvious to replace the two photodiode sensors (38R/38B) of ACPA with LED sensors. ACPA discloses, as stated on page 6 (lines 4 – 8), wherein the photodiode sensors (38R/38B) have respective responses to STRICTLY red and blue light components. On the other hand, Dunsmore discloses, as stated in column 3 (line 35) – 4 (line 20), wherein the LED (40) may operate as an emitter such that it emits light in the visible spectrum.

The Examiner notes light visible spectrum comprises a much broader spectrum than light STRICTLY in the blue light spectrum or red light spectrum. Therefore, ACPA in view Dunsmore in combination provide wherein said at least one LCD is arranged to generate an electronic measurement signal representative of the intensity of a light component in a first frequency band and to radiate light in a second frequency band different from the first frequency band.

23. As for **Claim 11**, ACPA discloses, as shown in figure 1 and as stated on page 5 (line 26) – page 7 (line 2) both of the present application, a white balance adjustment unit (4) for use in a digital camera, video camera, digital video camera, and television camera; albeit, ACPA does not disclose for use in a mobile telephone.

However, **Official Notice** (MPEP § 2144.03) is taken that both the concepts and advantages of a camera and a mobile telephone integrated in a compact and hand-held device in order to transmit images and audio data wirelessly are well known and expected in the art. At

the time the invention was made, it would have been obvious to one with ordinary skill in the art to have a camera and a mobile telephone integrated in a compact and hand-held device in order to transmit images and audio data wirelessly for the advantage of providing permanent storage for captured images.

24. For **Claims 12 and 13**, ACPA discloses, as shown in figure 1 and as stated on page 5 (line 26) – page 7 (line 2) both of the present application, a white balance adjustment unit (4) AND corresponding method (The Examiner notes that the method is not shown in a figure, however, described in the corresponding text). APCA discloses the white balance measurement unit (4) AND corresponding method for measuring the respective intensities of at least light components ("red and blue light components"; see page 5, lines 31 and 32) wherein said light components have predetermined frequency bands ("red and blue light components"). ACPA further discloses wherein the white balance measurement unit (4) AND corresponding method comprises at least one photodiode sensor (38R/38B) to respond to one of said predetermined frequency bands ("red and blue light components") of one of said light components received by said photodiode sensor (see page 6, lines 4 – 8), wherein the photodiode sensor (38R/38B) is arranged to generate an electronic measurement signal representative of the intensity of said one of said light components (see page 6, lines 6 – 8).

While ACPA discloses photodiode sensors (38R/38B) for measuring red and blue light components, wherein each sensor generates electronic signals corresponding to the intensity of the red and blue light components; ACPA does not disclose replacing at least one photodiode sensor with an LED such that the LED is reversed biased and adapted to respond to impinging

light by generating an electronic measurement signal representative of the intensity of the impinging light.

On the other hand, Dunsmore also provided an electronic measurement circuit AND corresponding method for a camera. More specifically, Dunsmore teaches, as shown in figures 1 – 3 and as stated in column 3 (line 35) – 4 (line 20), a camera (10) including a photometric electronic measurement circuit (figures 1 – 3) AND corresponding method of operating thereof (The Examiner notes that the method is not shown in a figure, however, described in the corresponding text), wherein the photometric electronic measurement circuit comprises at least one LED (12) that is connected in series with a resistor (44) and arranged to be reverse biased by the application of a voltage source. Furthermore, Dunsmore states that an electronic measurement signal ("measure scene illumination") is arranged to be generated by a current that flows in the LED when connected in reverse bias (specially see column 3, lines 52 – 67). Thus is it clear that Dunsmore at least teaches of an LED sensor such that the LED sensor is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light.

As stated in column 2 (lines 37 – 40) of Dunsmore, at the time the invention was made it would have been obvious to one with ordinary skill in the art to have included an electronic measurement for use in a camera including LED sensor such that the LED sensor is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light as taught by Dunsmore, in the white balance measuring unit including a photodiode sensor for use in a camera as disclosed by ACPA, for the

advantage of reducing the number of parts, the cost and the complexity of photographic cameras that include light emitting and light sensing functions.

25. For **Claim 14 – 18**, ACPA discloses, as shown in figure 1 and as stated on page 5 (line 26) – page 7 (line 2) both of the present application, a white balance adjustment unit (4) for use in a digital camera, video camera, digital video camera, and television camera. APCA discloses the white balance measurement unit (4) for measuring the respective intensities of at least light components ("red and blue light components"; see page 5, lines 31 and 32) wherein said light components have predetermined frequency bands ("red and blue light components"). ACPA further discloses wherein the white balance measurement unit (4) comprises at least one photodiode sensor (38R/38B) to respond to one of said predetermined frequency bands ("red and blue light components") of one of said light components received by said photodiode sensor (see page 6, lines 4 – 8), wherein the photodiode sensor (38R/38B) is arranged to generate an electronic measurement signal representative of the intensity of said one of said light components (see page 6, lines 6 – 8).

While ACPA discloses photodiode sensors (38R/38B) for measuring red and blue light components, wherein each sensor generates electronic signals corresponding to the intensity of the red and blue light components; ACPA does not disclose replacing at least one photodiode sensor with an LED such that the LED is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light.

On the other hand, Dunsmore also provided an electronic measurement circuit for a camera. More specifically, Dunsmore teaches, as shown in figures 1 – 3 and as stated in column

3 (line 35) – 4 (line 20), a camera (10) including a photometric electronic measurement circuit (figures 1 – 3), wherein the photometric electronic measurement circuit comprises at least one LED (12) that is connected in series with a resistor (44) and arranged to be reverse biased by the application of a voltage source. Furthermore, Dunsmore states that an electronic measurement signal ("measure scene illumination") is arranged to be generated by a current that flows in the LED when connected in reverse bias (specially see column 3, lines 52 – 67). Thus is it clear that Dunsmore at least teaches of an LED sensor such that the LED sensor is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light.

As stated in column 2 (lines 37 – 40) of Dunsmore, at the time the invention was made it would have been obvious to one with ordinary skill in the art to have included an electronic measurement for use in a camera including LED sensor such that the LED sensor is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light as taught by Dunsmore, in the white balance measuring unit including a photodiode sensor for use in a camera as disclosed by ACPA, for the advantage of reducing the number of parts, the cost and the complexity of photographic cameras that include light emitting and light sensing functions.

26. For **Claims 19 and 20**, initially the Examiner notes the preamble recites "a mobile station" and "a mobile telephone", respectively; however, as stated in the MPEP § 2111.02 (please see also Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ 478, 481 – CCPA 1951), if the preamble of the claim neither recites the limitations of the claim nor is necessary to give life, meaning, and vitality to the claim; then the preamble of the claim is not served to further define

the structure of the claim. Thus, the preamble of the respective claims are not given any patentable weight since the preamble of the claim neither recites the limitations of the claim nor is necessary to give life, meaning, and vitality to the claim.

Additionally ACPA discloses, as shown in figure 1 and as stated on page 5 (line 26) – page 7 (line 2) both of the present application, a white balance adjustment unit (4) for use in a digital camera, video camera, digital video camera, and television camera. APCA discloses the white balance measurement unit (4) for measuring the respective intensities of at least light components ("red and blue light components"; see page 5, lines 31 and 32) wherein said light components have predetermined frequency bands ("red and blue light components"). ACPA further discloses wherein the white balance measurement unit (4) comprises at least one photodiode sensor (38R/38B) to respond to one of said predetermined frequency bands ("red and blue light components") of one of said light components received by said photodiode sensor (see page 6, lines 4 – 8), wherein the photodiode sensor (38R/38B) is arranged to generate an electronic measurement signal representative of the intensity of said one of said light components (see page 6, lines 6 – 8).

While ACPA discloses photodiode sensors (38R/38B) for measuring red and blue light components, wherein each sensor generates electronic signals corresponding to the intensity of the red and blue light components; ACPA does not disclose replacing at least one photodiode sensor with an LED such that the LED is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light.

On the other hand, Dunsmore also provided an electronic measurement circuit for a camera. More specifically, Dunsmore teaches, as shown in figures 1 – 3 and as stated in column 3 (line 35) – 4 (line 20), a camera (10) including a photometric electronic measurement circuit (figures 1 – 3), wherein the photometric electronic measurement circuit comprises at least one LED (12) that is connected in series with a resistor (44) and arranged to be reverse biased by the application of a voltage source. Furthermore, Dunsmore states that an electronic measurement signal ("measure scene illumination") is arranged to be generated by a current that flows in the LED when connected in reverse bias (specially see column 3, lines 52 – 67). Thus is it clear that Dunsmore at least teaches of an LED sensor such that the LED sensor is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light.

As stated in column 2 (lines 37 – 40) of Dunsmore, at the time the invention was made it would have been obvious to one with ordinary skill in the art to have included an electronic measurement for use in a camera including LED sensor such that the LED sensor is reversed biased and adapted to respond to impinging light by generating an electronic measurement signal representative of the intensity of the impinging light as taught by Dunsmore, in the white balance measuring unit including a photodiode sensor for use in a camera as disclosed by ACPA, for the advantage of reducing the number of parts, the cost and the complexity of photographic cameras that include light emitting and light sensing functions.

Cited Prior Art

27. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure for the following reasons:

- **US 5 448 082 (Kim)** teaches of a light emitting diode which can be used both as an emitter or detector of light at a common wavelength.
- **US 6 449 437 B1 (Ogawa)** teaches of a light emitting and receiving circuit for a camera that uses a light emitting diode as a light receiving element.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 571.272.7313. The Examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Ngoc Yen Vu can be reached on 571.272.7320. The fax phone number for the organization where this application or proceeding is assigned is 571.273.3000.

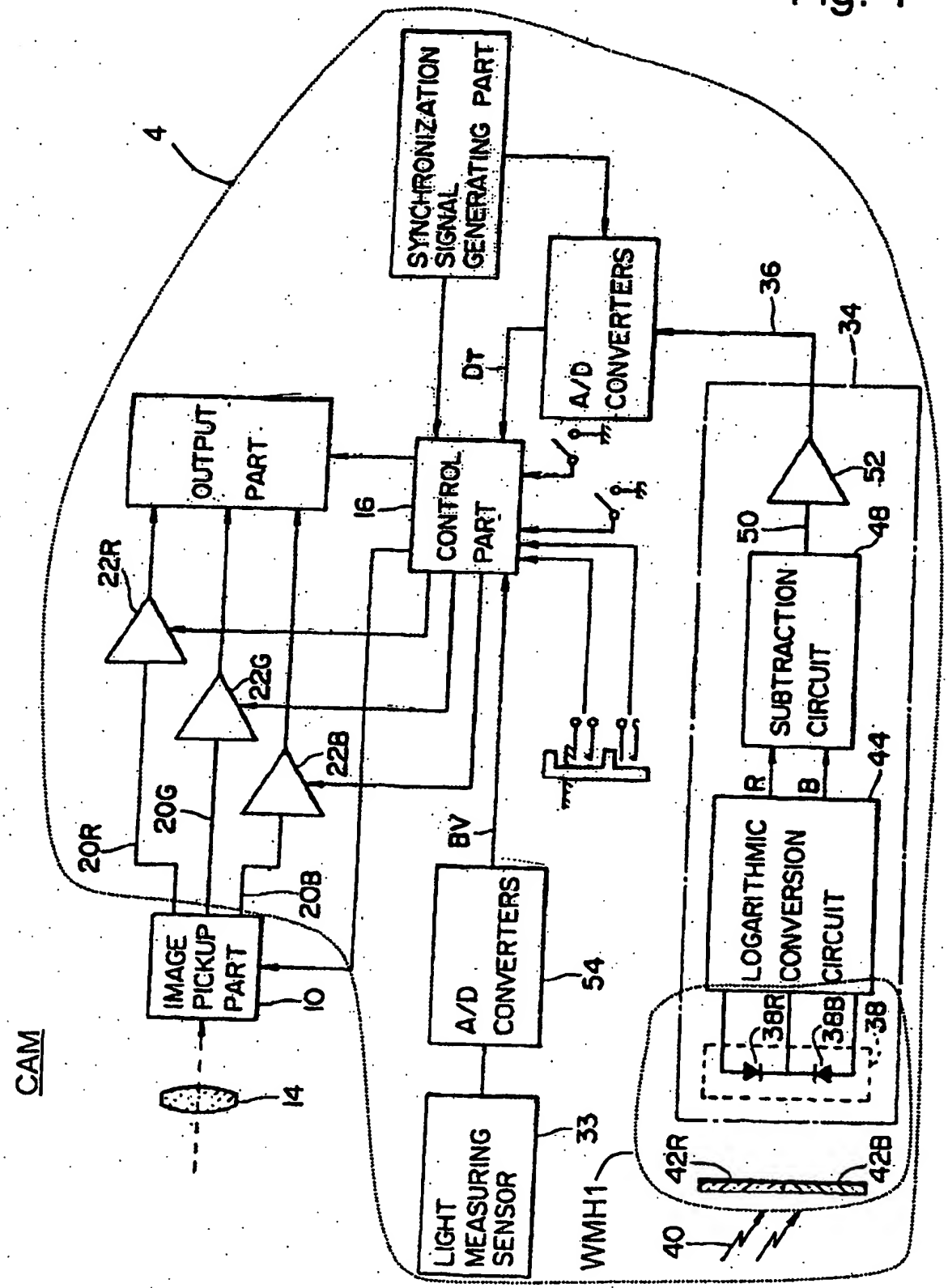
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
January 7, 2006

NGOC-YEN VU
PRIMARY EXAMINER

PRIOR ART

Fig. 1



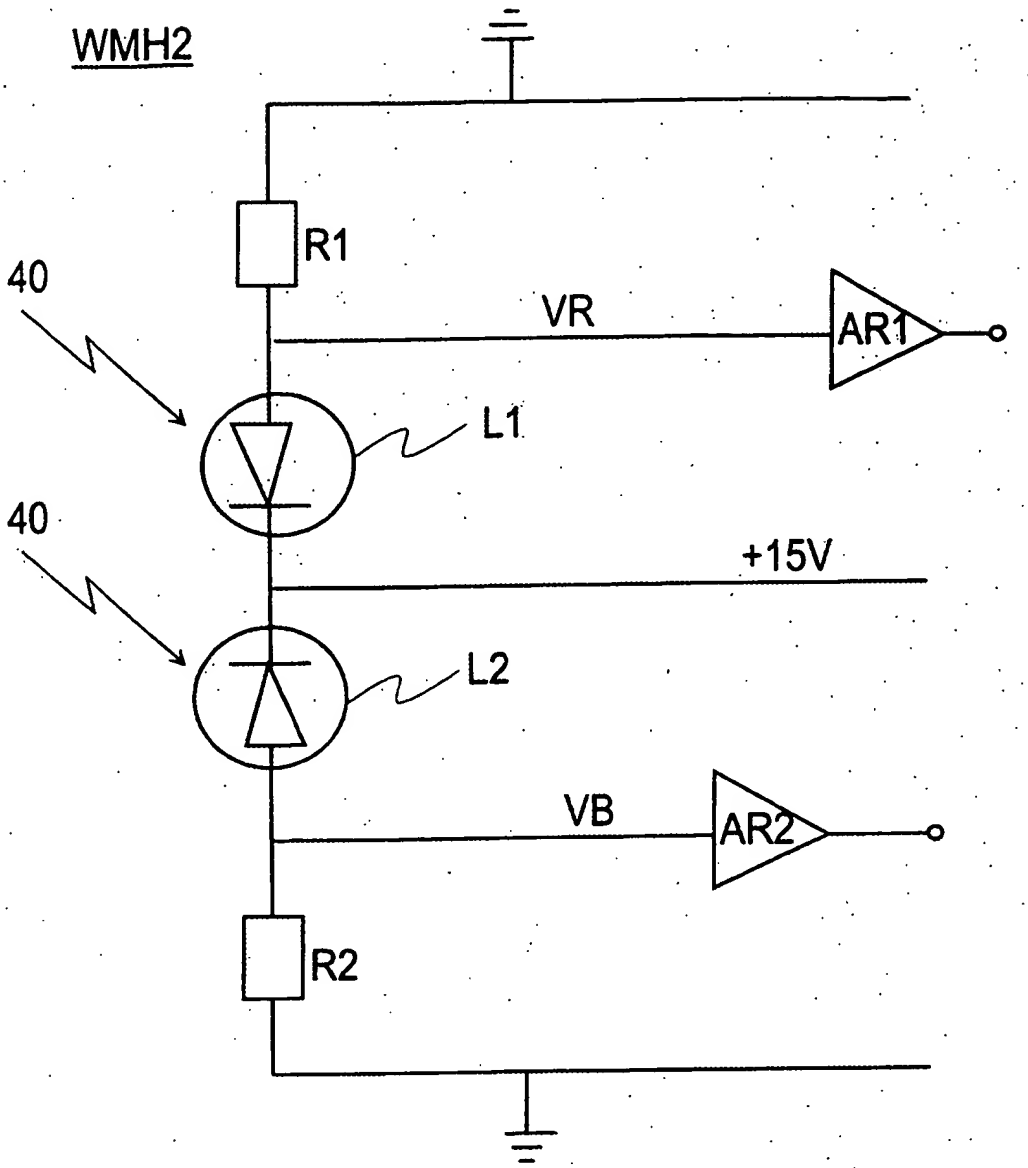


Fig. 2

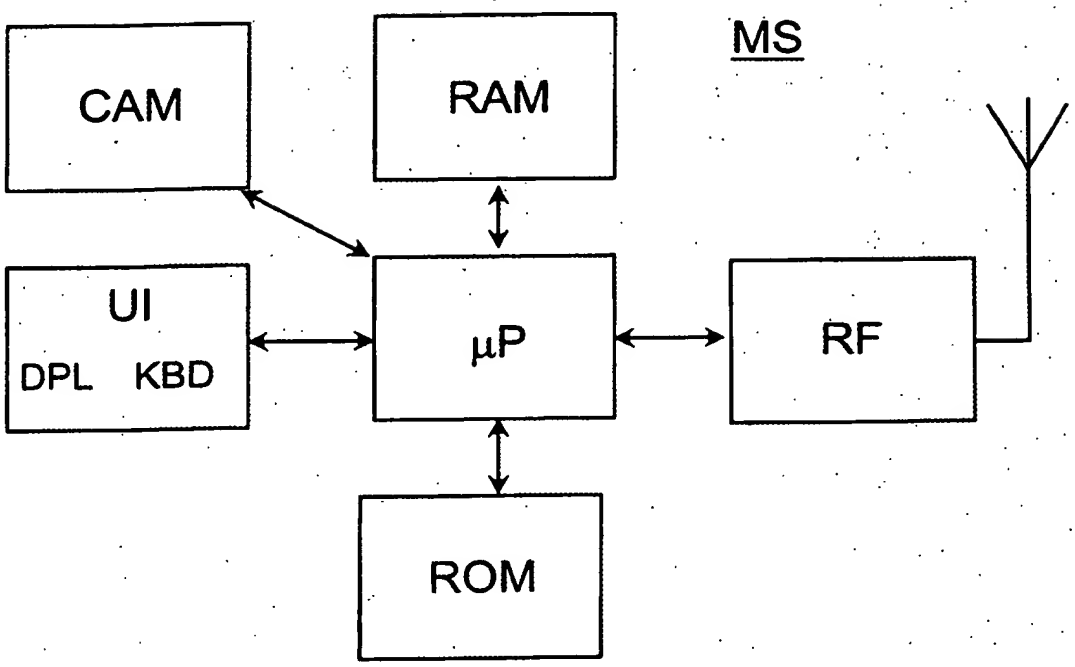


Fig. 3